

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-4 (cancelled)

Claim 5 (new): An abrasive jet assembly for use in an abrasive jet cutting system of the type including a source of high pressure water and a source of abrasive material comprising:

(A) a housing having a body disposed about a first longitudinal axis between an upstream end and a downstream end, a longitudinally extending passageway in communication with said upstream and downstream ends and a conduit-accommodating passageway extending generally radially from the exterior of the housing into a region in the longitudinal passageway, said housing being adaptable to be coupled to a source of high pressure liquid at its upstream end, and to be coupled to an abrasive jet nozzle at its downstream end;

(B) a unitary jet forming insert having

(1) an upstream surface and a downstream surface;

(2) A longitudinally extending passageway having a longitudinal axis extending between the upstream surface and the downstream surface of the insert and in communication with said surfaces, the second longitudinally extending passageway having an interior surface

characterized at the region of its downstream surface for receiving the upstream end of a separable abrasive jet nozzle so that the outer surface of at least a portion of the upstream end of the separable abrasive jet nozzle is flush with at least a portion of the inner surface of the insert in the region of the insert's downstream surface whereby the abrasive jet nozzle is in substantial axial alignment with the longitudinally extending passageway of the insert;

(3) A jet-forming orifice in the longitudinal-extending passageway and having a center aligned with the longitudinal axis of the longitudinally-extending passageway of the insert;

(4) A radially-extending passageway aligned with the conduit-accommodating passageway of the first housing to place the conduit-accommodating passageway in fluid communication with the longitudinally extending passageway of the insert adjacent a mixing region within the insert, the mixing region located between the jet forming orifice and the downstream surface of the insert, at least a portion of the outer surface of the unitary jet forming insert being flush with at least a portion of the inner surface of the housing for laterally securing the insert within the housing;

(C) means for securing the abrasive jet nozzle at the downstream end of the housing so that the longitudinal axis of the nozzle is maintained in substantial axial alignment with the longitudinal extending passageway of the insert.

Claim 6 (new): A method for assembling an abrasive jet assembly for use in an abrasive jet cutting system of the type including a source of high pressure water and a source of abrasive material, comprising the steps of:

(A) inserting

(1) a unitary jet forming insert having

(a) an upstream surface and a downstream surface;

(b) a longitudinally extending passageway having a longitudinal axis extending between the upstream surface and the downstream surface of the insert and in communication with said surfaces, the second longitudinally extending passageway having an interior surface characterized at the region of its downstream surface for receiving the upstream end of a separable abrasive jet nozzle so that the outer surface of at least a portion of the upstream end of the separable abrasive jet nozzle is flush with at least a portion of the inner surface of the insert in the region of the insert's downstream surface whereby the abrasive jet nozzle is in substantial axial alignment with the longitudinally extending passageway of the insert;

(c) A jet-forming orifice in the longitudinal-extending passageway and having a center aligned with the longitudinal axis of the longitudinally-extending passageway of the insert;

(d) A radially-extending passageway into

(2) a housing having a body disposed about a first longitudinal axis between an upstream end and a downstream end, a longitudinally extending passageway in communication with said upstream and downstream ends and a conduit-accommodating passageway extending generally radially from the exterior of the housing into a region in the longitudinal passageway, said housing being adaptable to be coupled to a source of high pressure liquid at its upstream end, and to be coupled to an abrasive jet nozzle at its downstream end,

(B) aligning the conduit-accommodating passageway of the housing with the radially extending passageway of the insert to place the conduit-accommodating passageway in fluid communication with the longitudinally extending passageway of the insert adjacent a mixing region within the insert, the mixing region located between the jet forming orifice and the downstream surface of the insert, at least a portion of the outer surface of the unitary jet forming insert being flush with at least a portion of the inner surface of the housing for laterally securing the insert within the housing;

(C) inserting an abrasive jet nozzle at the downstream end of the housing so that the longitudinal axis of the nozzle is maintained in substantial axial alignment with the longitudinal extending passageway of the insert.

Claim 7 (new): The method of Claim 6 wherein the step of inserting the insert into the housing is performed before the step of securing the abrasive jet nozzle.

Claim 8 (new): The method of Claim 6, including the step of inserting a conduit into the conduit-accommodating passageway of the housing.

Claim 9 (new): The method of Claim 6 including the step of securing the abrasive jet nozzle so that the longitudinal axis of the nozzle is maintained in substantial axial alignment with the longitudinal extending passageway.

Claim 10 (new): The method of Claim 6 wherein the step of inserting the abrasive jet nozzle is performed so that at least a portion of the outer surface of the nozzle at the upstream end of the nozzle is flush with at least a portion of the inner surface at the downstream end of the longitudinal extending passageway of the insert.